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1. A system for automatically controlling the build-up of material on a  
2 substrate, comprising:
  - 4 a controllable semiconductor diode laser having a beam directed to a localized  
6 region of the substrate so as to form a melt pool thereon;  
8 a material feeder for feeding material into the melt pool to be melted by the beam  
10 to create a deposit having a physical attribute;  
an optoelectric sensor operative to output an electrical signal as a function of the  
physical attribute; and  
a feedback controller operative to automatically adjust the rate of material  
deposition as a function of the electric signal.

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